Interview with CDR Jerry Linenger, MC, USN, NASA shuttle astronaut. Conducted by Jan K. Herman, Historian, Bureau of Medicine and Surgery, NASA Headquarters, Houston, TX, 7 March 1995.

I was intrigued by an article I ready about you in which you said you got interested in the space business while you were on a camping trip in Canada.

I was on the eastern shore of Lake Huron and all the moon stuff was going on. One of us had a little portable generator and a TV. It seemed that all the people in the woods came and were watching some of the first shots of the men walking on the moon. Later that night, I lay under the stars and thought, "Man, I'd love to do that some day!" I think my whole life, I've had that idea in the back of my mind. Even going to Annapolis and seeing a lot of Naval Academy and Navy people becoming astronauts. I probably would have gone in the flying business but my eyes slipped out of the 20/20 range and so I decided on medicine. It also looked interesting. Then the flight surgeon program and aerospace medicine looked really good. I could get into flying the back door way.

How did you decide to go to the Naval Academy?

Everything in life is the right place at the right time. In this case, I was sitting in the high school counseling office. My father was a World War II army guy. I didn't really have a military background, grew up in the Great Lakes area, but I had no Navy background. There I was waiting for my high school counselor. There was a bunch of brochures from all the schools. the Naval Academy's had a big sailboat on the cover. I started leafing through the brochure. On the bottom of the first page it talked about the challenge of the Naval Academy and it asked, "Are you good enough?" I saw that as a dare. I ripped the application out and sent it in.

Then I had to be nominated by my congressman. Then I got accepted. It was then I had to make my decision. Do I really want to go there? I have three sisters and a brother and my dad, who was a telephone repairman, didn't have a lot of money. We lived in a small house in the working suburbs of Detroit. My dad was doing everything he could to get us through school. My two older sisters and older brother were in school at that time. So when he saw that the an education at the Naval Academy wouldn't cost him anything, he said, "Son, this is where you're going." That was the final thing that convinced me.

After they shaved my head, and I experienced the heat of a Maryland summer, I would have quit. But I knew I would have to wait at least a month to let my hair grow back. And after that first week, I really loved the Academy. I felt really lucky. I would go home and my friends were working in summer jobs in the auto factories and I was going on cruises to the Mediterranean or flying jets down in Pensacola.

From right from the start, I knew the Navy was a pretty good deal and I felt I was doing the right thing. I've always been really happy with what I'm doing. The main thing the Navy offered was, If you are starting to get the least bit bored or secure in what you're doing, right about that point you can choose to do something new, and it can be almost totally new. You carry your rank along and don't slide back in pay.

What did you specialize in at the Academy?

After your first year, you could apply for the bioscience major. Basically, it was a premed major. Of course, you still took navigation and still had a lot of heavy engineering and thermodynamics and that kind of thing. Fifteen people were able to go into the biosciences

program. The agreement was that if you succeeded and got into medical school, the Navy would send you and then you would come back as a physician instead of going out into the fleet directly from Annapolis.

So it was another challenge, another dare. I got in to the program. I graduated from Annapolis and got accepted to a number of schools and decided to go to Wayne State which was back in Detroit. I really interested in trauma surgery and it was an inner city school with a lot of trauma coming in. We used Detroit Receiving Hospital. My family was also back there and it was home.

So, surgery was a main interest.

I did my surgical internship out at San Diego at Balboa Naval Hospital and really enjoyed that. At that time they wanted us to go out and do an operational tour after a year of internship. I decided to become a flight surgeon and fly. So I went into that.

About that time I decided to go back and finish up in surgery and do a residency. Once I got out and started doing flight surgery stuff I decided I didn't want to go back to the hospital.

I had a tour in the Philippines after that. The flight surgeon training in Pensacola was a great experience too. Because of my Naval Academy background when I had already had some fam flights, I got to fly a T-28 out of Corpus. They took five of us flight surgeons and put us out there. That was nice because they integrated us with the other aviators. So I did all my flight training at Corpus.

And you got to solo.

And that was fun. I've got to admit, my acro flight solo was a little scary and I didn't do all the maneuvers they allowed me to do but I did get back and land safely. That was a thrill of a lifetime soloing an old airplane. The T-28 was kind of high powered World War II plane. You really had to kick the rudder to keep it in control. It was like an old hot rod. Flying the jets is a lot smoother, like driving a dragster, whereas the T-28 was like a hot rod.

I went off to Cubi Point in the Philippines after that. That's where I began getting interested in preventive medicine. I saw a lot of the tropical diseases there and also at that time the Navy was beginning to move more toward health promotion and I really caught on to that with my squadron. I found I was very effective influencing them to better and healthier life styles. I was pretty much integrated into the squadron and felt I was really part of the group. I think they respected what I was doing for them. The naval aviators were a great bunch. We trusted each other, we worked together. Those guys are a real motivated group to stay healthy and so my health promotion efforts were well rewarded.

Was this the time you became interested in testing the endurance of your own body?

Yes. Somewhere in there. One of my old roommates from Annapolis is a Seal Team guy and when I first went and did my internship in San Diego, we shared a house together in Coronado. I would come back from being on call for 24 hours straight and he would grab me and say, "No, you're not going to bed yet. We've doing a team triathlon and you're doing the swimming leg." So they put me in the cold San Diego water and somehow I stayed awake. That's when I got interested in doing triathlons. I've been pretty steady at that. I wasn't craving the competition. I just did it for me, a personal test.

In space I went from liftoff getting thrust back into my seat, the minute the engines cut off and I started floating, my body said, "Oh this is different but this is ok and I was immediately was adapted to space. I felt perfect and after a few hard pushes, you push yourself too hard and go bang off a wall, you realize that you need to be a little softer and use your finger tip to move yourself around. The adaptablity of the human body is an eye-opening experience. I was amazed how the human body can adapt just like that after being on earth all these years. It takes just about 2 minutes and you're right at home in space.

You picked up a few degrees along the way. It looks like you were constantly testing yourself.

I think I wrote on my application for NASA that I don't like sitting still.

Astronaut Story

At this point in your career you were doing operational medicine and really having a blast and then at some point you thought it was time to try NASA and the astronaut thing. How did that develop.

It wasn't as sudden as that. The Navy comes out with an announcement. Anybody who has an interest in this they encourage them to apply and you never know. When a message came out, people knew of my interest so they would shuffle it over to me. I think I filled out a NASA application over in the Philippines.

That was in 1983, I think.

Basically, everytime the Navy came out with an announcement I would put an application in the hopper and keep my fingers crossed. Back then, I didn't have a chance. It takes a lot of experience and you have to remember a lot of people want to be astronauts. I even made it through some of the Navy selections. What happens in the selection process is, the Navy has a board. It selects a given number of names, maybe 50 people and they submit those names to NASA. The Air Force and the Army does the same. And the civilian pool applies directly to NASA and they come up with maybe a hundred people. They put all these people together and then they select people for interviews.

Along the way, I never made it past the Navy's selection.

Did you have to do this every year or once your name was in that was it?

You had to do it every year. At one point I had my name in through the Navy and was supposed to come down for an interview. I think it was around the Challenger time and they didn't select anyone that year. To be honest, I think the application I was done with my Ph.D. at North Carolina and I picked up a masters degree in business and a masters in public health and I had done a lot of flying and at that point I said if I have a chance, this as good as I can get on paper. At that time, I put in a NASA application and my name didn't even get sent to NASA by the Navy. At that point, I felt I had given it my best. I put together as good an application as I could, I had good recommendations.

Lucky for computers and word processors. I had the application on disc and I updated it and sent it in. At that point, the Navy selected me and then NASA called me for an interview.

What kind of application were they looking for?

In general, there's nothing on earth that's analogous to flying in space. Right off the bat, you don't know who's going to make a good astronaut. A Navy test pilot is the kind of person that's been in tough situations and can respond. Is used to the aerospace environment in general. So that person makes sense. The mission specialist astronauts, on the other hand, is more difficult. One mission you're up there studying astrophysics, the next mission you're launching satellites. Nobody on earth launches satellites. They do need life scientists to study the human body during long duration flights. Those folks need life science experience or a medical background or a research background. If you've succeeded in the past in those things you're probably will in the future.

In my case, it's hard to know why I was selected. I think the strength of my application was in my educational background. It showed I had the self-discipline to keep going and the will power to keep improving myself and to work hard at something. Aviation experience helped. My medical background was obviously a strength. I think the military background shows you are used to working with a crew as a team. This all makes you attractive to NASA.

Was the interview the first indication that they were interested?

Yes. The Navy getting me through was good--getting on that Navy list and then NASA gives you a call and says, "We'd like to have you down for an interview and sends you a letter to confirm it. At that point you know they're not going through the trouble of having you down here for a week unless they're seriously considering you. At that point you begin thinking you have a chance.

I came down here for a week of medical tests. They really check you out. If there's a slight indication that there's a problem, they take you to the specialist and the subspecialist level and really look into things.

They also put you in what was originally designed as a rescue sphere. They were thinking that in space you could rescue people by putting them in a pressure-tight inflatable sphere that's maybe 3 feet x 3 feet--a little ball kind of thing. They'd zip you up in this thing and then someone else in a space suit could move you off a space station, for example, and into the shuttle through open space. What they used it for, I'm sure they had a psychologist who would say, "I want you to crawl inside this thing." And then they would zip you up in this pitch black ball curled up in the fetal position. And then he says, "I'll check back with in a while." It's this open-ended "awhile." So you just sit in there with a bunch of monitors attaached to you so they can check your pulse and to see if you're ok in that claustrophobic situation. I know people who tell me there's no way they would climb in that ball. And those are the people you don't want to be astronauts.

There's a lot of psychological and medical testing, and a big board interviews you, which is the real crucial thing. The real good indication is when old friends I went to elementary school with, guys I haven't talked to in 25 years, start calling me and saying, "What did you do? We had some FBI guy out here asking about you." That was a good clue that something was happening. And eventually you get the call from NASA asking if you would like to come down and train at Johnson Space Center. And then you let out a great big yahoo. I was at the Naval Health Research Center at Point Loma and I think they could hear me in Coronado. About 2 minutes later the guy told me that the press release wasn't out until the next day so please don't say anything yet. If he said don't say anything until tomorrow, I'm not going to say anything

until tomorrow. My co-workers thought I was crazy because following my yell, I was just sitting at my desk working on a research paper.

What arrangement does the Navy have with NASA? I know with Joe Kerwin, he went to NASA and never went back to the Navy.

There's a memorandum of understanding or an agreement worked out. In my case, I'm here on a 5-year set of orders and I'm on loan to NASA. I'm active duty Navy and going through the Navy selection boards and Navy pays NASA who pays me. But I'm still a naval an active duty naval officer. I get fitreps written by people here that go back to the Navy. When you are here you begin picking up a lot of experience and you become a more valuable asset so the longer you're here. At the end of 5 years, I'll have a pretty good understanding of what's going on in the space world and it's possible to extend here. I think that's what happens to a lot of people. The backgrounds they're looking for to be an astronaut are not young puppies, not 22-year-olds out of college. So many folks are getting pretty close to the end of their careers by the time you're finished your astronaut time. But there are people who go back to their services. On the other hand, some astronauts are civilians so they go back to working in a university or whatever they were doing before.

So, the howling was over, the press release was released.

I have to tell you one story. I said, I'm not telling my wife or anybody. The wrong people will hear it. I was determined not to tell anybody. I guess I was a bit paranoid. I certainly didn't want to blow it after all those years.

We happened to be going on a skiing trip to Colorado the next morning. I thought I would keep my mouth shut until the following day. We got on the airplane and I spoke to one of the attendents. "I would like to talk to the pilot. I'm not trying to hijack this airplane or anything." As with most airlines, you'll usually find an old Navy pilot in the cockpit. Sure enought, I walk into the cockpit and identify myself as a Navy flight surgeon. I had a copy of the press release and I told him I had just been selected for the astronaut corps and my wife didn't know it yet. Could he make an announcement during the flight to let my wife know. He thought that was great. So I went back to my seat and waited. Sure enough, we get up to altitude and the pilot said, "We have a special occasion. Would Kathryn Linenger please identify herself." My wife pushes the call button and they come over and ask her to please stand up. So she does and looks quite bewildered as if to say, "What's going on?" The pilot says, "Kathryn, I hope you like hot, spicy food and that you can talk with a drawl. We have a press release we'd like to read. "The fourteenth group of astronauts has been selected and CDR Linenger is on the list and blah blah blah." So the whole airplane starts clapping and the attendents bring back a bottle of wine for us and it was all pretty neat. I knew I could count on an old ex Navy aviator in the cockpit.

That's a classy way to do it.

It was fun. I reported in Houston in August of '92.